The
VETERINARY RECORD
Founded by William Hunting, F.R.C.V.S., in 1888
7, MANSFIELD STREET, PORTLAND PLACE, LONDON, W.1. MUSEUM 6541
No. 14 APRIL 7th, 1956 Vol. 68
Registered for Transmission as a Newspaper *Price 2s. post free*

Training the New Veterinarian

THOSE of our readers with a direct interest in veterinary education and its problems will peruse with interest two admirable articles on Veterinary Education in North America, the first of which is presented elsewhere in this issue. To review and present concisely an accurate picture of the activities of some 19 colleges, most of which are undoubtedly, as one would expect from the atmosphere of the country to which they belong, intensely individualistic, can be no easy task, and Dr. Polding is to be congratulated on a miracle of compression without sacrifice of any really essential feature.

Any educational system must inevitably be, in part at least, a reflection of the life and activity of the community in which it is functioning; but it should aim also at influencing future trends. The American veterinary educational set-up undoubtedly does the former and does it well; the extent to which it is fitting itself for the latter task is, however, more debatable.

It goes without saying, of course, that veterinary schools must turn out trained practitioners able to make for themselves a reasonable livelihood in return for services they render to the community. In the intensely active " commercial " atmosphere so prevalent in the virile North American continent of to-day this has inevitably meant a concentration not only on clinical work but on those aspects of clinical work which pay their way. Such concentration leads, one sometimes fears, to undue emphasis on the small animal from anatomy right through to the final years. But there is no doubt that in training the future practitioner for the tasks on which he will wish to concentrate, the American schools are often ahead of those in this country; and it has been said with no small justification that the final year American veterinary student may see more clinical work in a week than his British counterpart sees in a year. The result is that on Graduation Day the young D.V.M. is often more technically able, as well as more personally confident, than the newly qualified M.R.C.V.S. in many matters with which he will be immediately concerned.

But every system has its Achilles heel, and the excellence of much of the technical instruction in American veterinary colleges has at least two dangers. One is the tendency to superficiality in basic education seen at many levels in the American educational system, which results in the American veterinary student starting off less well equipped than those who matriculate in our own universities. His six-year course of training, therefore, is often not more, and is frequently less than equivalent, to our five-year courses, particularly in the more scientific aspects of the veterinary curriculum. The other is an understandable tendency to neglect in the schools those fields of veterinary work which are at the moment less commercially attractive such as preventive and State medicine, and even veterinary public health. If it be true, as is often claimed, that the long-term prosperity of the veterinary profession in any country is associated with its ability to maintain the health and productivity of all livestock, there is always the inherent danger that undue concentration on the affairs of to-day may well jeopardise the success of to-morrow. To that end one can only regret the extent to which, in the United States, the lead in all matters of " Animal Science," except in the purely clinical and therapeutic fields, has been allowed to slip into other and often less competent hands. This is rendered more serious by the fact that the position of the U.S.A. in the political world of to-day inevitably makes it the main rival to the U.S.S.R. as the centre of attraction for potential leaders of the profession from many lands, particularly the underdeveloped countries. Thus American aid in the veterinary field, however well-meaning and however generous, may well have the unintentional effect of imposing on many areas an American pattern entirely unsuited to the political and economic set-up of the recipient country, and bias the further development of its veterinary profession in a way which may ultimately be detrimental.

We must not, however, let such criticisms blind us to the excellence of many facets of veterinary education in America. Even without the powers possessed by the Royal College, the A.V.M.A. is undoubtedly doing a wonderful job in improving educational standards and there is obviously much

(Concluded at foot of col. 1 overleaf)

Cat-Scratch Fever

A Digest of Some of the Literature

It appears that this disease of human patients, if not actually a new disease in Great Britain, is one that may be becoming increasingly prevalent. Possibly the increasing prevalence is at least in part due to an appreciation of the presence of the disease and is also in part due to the development of an intradermal test as a means of differential diagnosis.

The disease follows a bite or a scratch by a cat. After a delay varying from a week to as long as seven weeks or more a regional adenitis develops. The regional adenitis becomes suppurative but the pus is sterile. The disease is non-fatal and self-limiting, but recovery is slow. Antibiotic treatment is of doubtful value. The cause is thought to be a virus.

The cat appears to be a vector in that cats involved show no signs of the disease and attempts to reproduce the disease in cats have not been successful. It may be that cats possess a natural immunity.

The disease is of importance to the veterinary profession in that veterinary surgeons bitten or scratched by their patients could contract the disease, and also they may be consulted regarding a cat which has bitten its owner who has subsequently shown signs of the disease.

The following digest of literature in chronological order presents the history of this disease in this country and also shows the information that is available in regard to the disease, the most detailed abstract being that of a paper published in January, 1956.

Two Cases of Rat-Bite Fever. COLLIER, W. T. (1924). *Brit. Med. J.*, August 16th, 1924. pp. 265.

This author describes two cases of spirochaetal infection in human beings who had been bitten by rats. He refers to three other cases in the literature, but does not give the references, two followed bites by ferrets and the third followed the bite of a kitten that had been playing with the body of a dead rat. (*Abstractor's Note:* This does not appear to be a case of cat-bite or cat-scratch fever, but rather a case of spirochaetal infection).

A Case of Cat-Bite Fever. BEAUMONT, G. E. & GILL, A. M. (1935). *Brit. Med. J.*, March 23rd, 1935. pp. 582.

These authors state that rat-bite fever and cat-bite fever are one and the same disease and refer to Collier's report in 1924. They then describe a case of cat-bite fever in a girl of 14 who showed signs nine days after being bitten on the leg in September. The illness started with fever, swelling of the leg and the development of a lump the size of a walnut in the groin. Recurrent fever persisted until January. Treatment was with Novarsenobenzol. No causative organism was recovered in spite of extensive bacteriological investigations.

Annotation. Cat-Scratch and Tularaemia. *Lancet* (1950). December 16th, 1950. pp. 812.

This annotation points out that cat-scratch fever seems to be a condition distinct from infections with *Pasteurella septica* the latter infection being a recognised sequel to bites by cats and other animals which carry the organism in the mouth or respiratory tract. Bacteriological and mycological methods have not revealed the cause of cat-scratch fever, but virus infection is a possibility especially as cats and mice are often infected with viruses of the psittacosis-lymphogranuloma group.

Annotation. Cat-Scratch Fever. *Lancet* (1952). February 9th, 1952. pp. 302.

This annotation outlines the picture of cat-scratch fever as varying from regional adenitis to forms resembling lymphogranuloma inguinale to ocular infections and to eruptions of the skin. It is emphasised that in no case has bacteriological examination of the pus given a clue to the aetiology. "A guess at the infectious agent is premature, but a virus of the lymphogranuloma-psittacosis group seems possible."

---

we can learn from its achievements. This is true not only in clinical teaching but also in the research field, and in particular our veterinary educationists must often envy the privileged position of their American counterparts in relation to extension services in the surrounding community. One could only wish that the development of the V.I.O. service in this country had been more closely linked with veterinary rather than agricultural schools, and suggest that the time may be ripe for a reconsideration of the relationships of these two aspects of our professional endeavour.

In the siting as well as in the construction of many American colleges one can see the advantages reaped by the late starter who benefits from the errors of his predecessors. No one who visits them can fail to be impressed on occasion by the charm and even the dignity which has been combined with a high degree of functional efficiency. But above all the visitor from this country must feel the impact of the "dynamic" influence which has penetrated this, as every other, aspect of American life and thought, and reflect on occasion how the injection of a little of it might revitalise our own more staid, if sometimes sounder, approach. We have nothing of which to be ashamed and indeed much of which to be proud in our veterinary schools and their products, but it would seem that a continual interchange of ideas as well as of personnel between the two communities could only be to the benefit of both.

Cats have probably scratched man from time immemorial and glandular enlargement to the size of an orange cannot have escaped earlier observers. "We think this must be a new disease arising from a change in habit either of the parasite or of one of its hosts."

Two questions remain unanswered. Is it a feline disease transmitted to man? Is the cat a mere vector?

Reference is made to the use of an intradermal test using pus from the lesions as an antigen, an intense reaction being produced in patients who had suffered from the disease.

Cat-Scratch Fever. COX, P. J. N. (1952). *Lancet*, February 18th, 1952. pp. 364. Letter to the Editor.

This letter records a case in which the diagnosis was confirmed by the specific skin test mentioned in the annotation of February 9th, 1952.

WIGLEY, R. D. (1952). *Ibid.* pp. 365.

This letter describes a case which "seems to fit the description" of the annotations of February 9th, 1952.

Cat-Scratch Fever. WILLCOX, R. R. (1952). *Lancet*, March 1st, 1952. pp. 470. Letter to the Editor.

This letter raises doubt as to the specificity of the antigen used in applying the skin test to patients as a means of diagnosis of cat-scratch disease. Six patients with non-specific urethritis were tested, three gave positive reactions with papules 6 mm. or more in diameter. Three controls gave negative results. (*Abstractor's note:* The three patients who gave positive results to the test might have been exposed to infection with the causal agent of cat-scratch fever at some earlier date.)

Cat-Scratch Fever. A Case in England. GARAI, O. F. (1952). *Lancet*. March 29th, 1952. pp. 646.

This article points out that though cat-scratch fever is well-known in France and has been shown to be widespread in America no case records of the disease in Britain have been published. This case record concerns a woman of 34 who was bitten by a kitten in the last week of September, 1951. The kitten died a few hours after inflicting the bite, the cause of death being unknown. The woman remained well until November 2nd when she developed signs of general malaise and fever. On November 7th the left epitrochlear gland was enlarged to the size of a walnut. Though the wound on the back of her left hand had apparently healed, the scar was unusually purplish and a little indurated. Chloramphenicol therapy followed by a course of penicillin was ineffective. By December 13th the left epitrochlear gland was obviously softening and about 1 ml. of thick fluid was aspirated. Direct examination of the material revealed many polymorphs but no organisms. A mouse injected intraperitoneally with the material on December 13th and killed on the 20th showed no evidence of infection. A guinea-pig injected at the same time and killed on March 3rd showed no evidence of disease. With antigen obtained from U.S.A. a skin test was performed and a reaction was obtained in 24 hours, this became pronounced in 48 hours. A test applied to the patient's husband as a control was negative.

Cat-Scratch Fever. CAMPBELL, ELSPETH, S. K., & WHEATON, C. E. W. (1952). *Lancet*. May 10th, 1952. pp. 975. Letter to the Editor.

The first of these authors was herself a case of cat-scratch fever. A kitten acquired in November, 1951, inflicted many scratches on the hands. A raised erythematous plaque was noticed medial to the nail of one finger. Two weeks later there was discomfort in the left epitrochlear gland and subsequently the two left axillary glands enlarged with severe periadenitis. Later the supraclavicular gland was fou to be enlarged. The epitrochlear gland became fluctuant and on March 4th, 4 ml. of yellowish pus was aspirated. Pus was aspirated on three further occasions and the swelling diminished. The swelling in the other glands subsided. Cultural and biological examination of the pus was negative. Antigen prepared from the pus was injected intradermally; the reaction was strongly positive. Complement-fixation tests for psittacosis-lymphogranuloma were negative. The kitten remained perfectly healthy.

Cat-Scratch Disease. The Intradermal Test in Controls. BETTLEY, F. R. & FAIRBURN, E. A. (1953). *Lancet*. March 14th, 1953. pp. 520-521.

A patient with subacute lymphadenitis in the left axilla following an ulcerated cutaneous nodule on the dorsum of the left hand was tested with cat-scratch antigen obtained from a known case of cat-scratch fever. Following intradermal inoculation a strongly positive reaction was obtained.

The same antigen was used to apply the test to 40 patients who had kept cats at some time during their lives but gave no history suggesting cat-scratch disease. They suffered from a variety of skin diseases; none showed any clinical signs suggesting cat-scratch disease. All were adults; 25 were women and 15 were men.

Of these patients 37 gave no reaction to the antigen, and three showed a positive reaction exactly resembling that obtained in the patient suffering from cat-scratch disease. The three positive reactors and the original patient were then tested with the antigens of lymphogranuloma inguinale, classical psittacosis and pigeon psittacosis. All these reactions were negative.

French workers regard the intradermal test in cat-scratch disease as specific and state that very numerous controls gave negative reactions.

The authors of this paper consider that in view of the clinical nature of cat-scratch disease, and the ease with which it may be confused with other types of lymph-gland enlargement, it seems likely that a good many cases, particularly mild ones, will go undiagnosed. It seems likely, too, that a positive intradermal reaction would last for some years, and that for these reasons positive reactions are to be expected in a proportion of controls, particularly in

people who keep cats. The writers of this article believe that the results of their testing confirm this supposition and indicate that undiagnosed or possibly subclinical infections are not very unusual among cat lovers in this country.

French workers advanced evidence for including cat-scratch disease in the lymphogranuloma inguinale/psittacosis group of virus infections: they recognise, however, that in their cases intradermal reactions for lymphogranuloma inguinale and psittacosis were negative.

Campbell and Wheaton (1952) found the same and their observations are confirmed by the work recorded in this publication.

It appears from the work in this paper that the intradermal reaction with cat-scratch disease is specific. Positive reactions should, however, be interpreted with care; they may be obtained in apparently normal people, presumably as a result of previous undiagnosed infection and are therefore of limited value in the diagnosis of an actual present illness.

Cat-Scratch Fever. BRAND, T. A. & FINKEL, K. C. (1956). *Brit. Med. J.* January 14th, 1956. pp. 88-91.

In the introduction to this article it is pointed out that an American worker while investigating tularaemia in 1932 recognised a separate disease entity in individuals who had been scratched by cats. The condition was characterised by an initial lesion at the site of inoculation, followed by regional adenitis and fever, the adenitis progressing to a bacteriologically sterile suppuration. In 1945 two American workers developed an antigen which gave a local reaction when injected intradermally. Meanwhile this condition has been well recognised in France and an intradermal test was developed in that country. During the past five years the condition has been reported from Switzerland, India and Great Britain under various names for example: cat-scratch disease, cat-claw disease, cat-bite fever and benign inoculation lymphoreticulosis.

The authors then describe three cases in detail.

The first involved a child of seven who was bitten on the right thumb by the family cat. A few days afterwards there developed some local inflammation followed by a mild lymphangitis and axillary adenitis. This apparently responded to penicillin and rest. Fifteen days after the bite there was a sharp febrile reaction, and the axillary glands had increased in size. There then developed a generalised pleomorphic rash and classical erythema nodosum of both legs and a few smaller nodes on the arms. Treatment with chlortetracycline resulted in some general improvement but the axillary glands were becoming fluctuant. Thick greenish-yellow pus was obtained by aspiration of the bubo formed in the right axilla. This pus was bacteriologically sterile. A cat-scratch intradermal test was strongly positive.

The bubo was incised to permit free drainage. Slowly—progressive recovery extended over six weeks. Three months later the child was in excellent health.

The second case was that of a woman of 53 who was bitten on the right shin. Seven weeks later she developed a regional adenitis in the right groin. Subsequent suppuration was relieved by incision. No diagnosis was made at this juncture, but four months later a strongly positive reaction was obtained to an intradermal test using cat-scratch antigen prepared from pus obtained from the first case.

The third case in a woman of 56 followed a similar course. The intradermal test with cat-scratch fever antigen was not carried out till nine months later. It was positive.

In a discussion these authors point out that the aetiological agent of cat-scratch fever has not yet been identified. It is thought to be a virus of the lymphogranuloma-psittacosis group. French workers have transmitted the disease to a human volunteer and to monkeys and inclusion bodies have been described in the lesions. It has not been possible to produce the disease in a cat nor has a positive intradermal reaction been produced in the cat. From this it is suggested that the role of the cat is that of a vector.

It is postulated that the virus is widely distributed in plant and vegetable life. The cat sharpening its claws acquires the virus and in the process of cleaning its claws transfers the virus to its mouth.

A detailed description of the pathology of the lesions in human patients is given and this is followed by a survey of the clinical signs recorded from various cases.

The difficulties in differential diagnosis are surveyed. A positive intradermal test is generally accepted as a reliable indication of active or previous infection. The results of therapy are difficult to assess as the disease is a self-limiting one. Chloramphenicol, chlortetracycline and oxytetracycline are thought to be of some benefit and may alleviate the early constitutional symptoms, but do not seem to prevent the development of regional adenitis.

G.F.B.

A NEW VETERINARY DEGREE IN AMERICA

Readers may be interested in the following paragraph, which is quoted from a recent issue of the *North American Veterinarian:*—

Cornell will become the first university in the United States to give a doctorate of science in veterinary medicine. This D.Sc. will be a professional degree awarded for advanced study in such clinical practices as medicine, surgery and therapeutics. Cornell will continue to offer a Ph.D. degree, with a major in veterinary medicine, for persons doing original research in such basic sciences as anatomy, bacteriology, physiology and pathology. Applicants for admission must have graduated from an approved school of veterinary medicine at least five years previously, and must have published papers demonstrating their ability for independent research. Candidates with no graduate credit beyond their D.V.M. degree must complete at least two years of full-time study for the doctor's degree, while candidates with a master of science degree must complete at least one year.

Veterinary Education in North America

BY

J. B. POLDING

Faculty of Veterinary Science, Makerere College

PART I

The impressions noted here were gained during a country-wide tour of some nine or ten American veterinary schools and several research centres. The visit to America was financed by the generosity of the Carnegie Corporation of New York.

Status and Operation of Veterinary Schools

ACCORDING to one source of information there are 19 accredited or provisionally accredited veterinary schools in North America, two being in Canada. The majority are long-established (some very long, like Iowa—1879; and Cornell—1894); about seven are post-war developments whilst the formation of an 18th school is under consideration in the U.S. The accrediting body is the Council on Education of the A.V.M.A. which appoints a committee of inspection. At the present time this committee consists of a practitioner (the chairman), a representative of the armed forces and two educationalists, one on the clinical and one on the pre-clinical side. The committee visits the schools in rotation, returning to the same school about once in three to four years. Apart from advising on minor adjustments, the committee can recommend that a school be accredited or disaccredited or put on probation, but, as at present there appears to be no legislation which gives control of the right to practice to a country-wide governing body such as the A.V.M.A., it is not perfectly clear what sanction these recommendations carry, although obviously accrediting by the A.V.M.A. is a very desirable moral goal. Right to practice is controlled by the legislation of the individual State within which it is desired to practise, and lies in the hands of a State Board which examines would-be practitioners independently. It is not certain, therefore, how individual State Boards would in all cases view candidates from disaccredited schools or from one on probation. But it is understood that at present some 12 to 15 States accept candidates from accredited schools only, while a number of other Boards make their own rules to accept only such candidates. Thus possibly two-thirds of the States are influenced by the Council on Education. As far as can be judged, one other very real result of the work of the inspection committee has been the creation of an admirable uniformity of standards among the schools. It is of interest to note that the A.V.M.A. is at present actively engaged in inducing all State Boards to adopt a uniform system of examination (Payne & Hardenberg, 1955).

A noteworthy feature of the American veterinary schools is their regional plan of operation. In 13 Southern States and 10 North-western it has been rightly recognised that it would be redundant and uneconomic for each State to support a veterinary school. Consequently the schools serving these areas operate regionally. They are in the first instance partly financed by the home State, and they usually reserve half or more of available places for entrants from that State. But each regional-plan school accepts responsibility for providing veterinary education for three or four or more adjacent States that have no school, and most of the remaining places are allocated to entrants from these States which contribute $1,000 to $1,200 p.a. to the cost of each out-of-State student admitted. Under this plan would-be students are more or less compelled to go to the school serving their region, as places are rarely given to candidates from other regions. Only an exceptional out-of-region student could hope to gain entry. Both the cost to the individual student and the cost per student to the College for veterinary education varies from school to school. But, while the latter charge is difficult to ascertain, an approximation of the total annual recurrent cost of running one school was $185,000 (£62,000) p.a., of another $130,000 (£42,000) p.a. and of a third $300,000 (£100,000) p.a., research excluded. Allowing an average roll of 250 students, the cost per student would appear to vary between $420 (£140) and $1,200 (£400) p.a., the former figure being derived from a poor school in the South, the latter from a rich one in the West. The cost to the student, which includes all personal expenses such as board, lodging and pocket money, seems to lie between $750 (£250) and $1,000 (£330) p.a. for in-State students and for out-of-State students who are required to pay extra tuition fees and have other additional expenses (*e.g.*, travel) $1,000 (£330) and $1,200 (£400) p.a.

It appears that in recent years the status and attraction of the veterinary profession in the United States has risen considerably. A decade or two ago some schools had the greatest difficulty in attracting sufficient candidates to fill class-rooms, which in the school visited have a capacity from 60 to 70. As in other countries, the post-war period resulted in a vast increase in would-be veterinarians and it was in this era that the seven newer schools were created. However, although the war influence must now be only slight and more schools exist, there are still several candidates for each available place in the schools. By far the greatest number of graduates choose private practice as a career and as in other countries state veterinarians, teachers and research workers are difficult to find. There seems no manner of doubt that at present private practice is both remunerative and satisfying.

School Buildings and Equipment

As might be expected school buildings vary considerably between the recently built or rebuilt and

the old, and many of them contain imaginative and interesting features. Facilities vary also between the schools of the richer and poorer States, but it can be said at once that this variation lies between the perfectly adequate, although here and there in part makeshift, to the luxurious, or perhaps more correctly, to those with a standard of excellence many years ahead of the times. Although comparisons may become odious, it would be a pity not to mention the remarkable 6½-million-dollar veterinary school now under erection at Cornell University, the presently completing school at College Station, Texas, and the newly completed schools at Davis, California, and at Athens, Georgia. The Cornell building, for example, in the care and thought that has gone into its planning and the scope for expanding activities that its size and fittings offer, sets a level of excellence that it will take years to diminish. Particularly noteworthy is the way each department links with other related departments, whilst retaining its entity, and the interesting layout of its magnificent large-animal clinic and its attendant services.

Although costing less ($1,750,000) and rather differently planned, the College Station school is also remarkable for its new buildings. It is also almost ideally situated on a large acreage of its own and is intimately related to the School of Agriculture's lands and buildings.

One element of luxury in many of these schools lies in the number of their auditoria and class-rooms. One school at least has two auditoria (the newer auditoria are conduited for television), one for about 300 and another for about 600 persons, while most schools have for each department a theoretical class-room seating from 60 to 70 as well as a practical class-room for 35. But since only four classes exist concurrently in any one school only four rooms can be occupied at any one time, or at the most five rooms or six, if half-class pre-clinical practicals are taken into account. Many rooms are therefore standing vacant much of the time. It has been calculated that one new school has 60,000 square feet of floor space or 250 square feet per student, which even taking into account overheads such as corridors, stores, staff offices, and research laboratories, seems lavish. It would appear that one or two shared theoretical class-rooms plus laboratories in which theoreticals can also be given would suffice, although it is not denied that this superfluity of class-rooms must be most convenient. It is not clear why two large auditoria are required, especially as they are usually used for visiting conferences, which surely could be staggered, and failing this, as other schools on the campus have similar facilities, auditoria could presumably be borrowed.

A handsome feature of the new colleges is the ample room for research, routine diagnosis, and housing of extension staff, which should provide for many years to come.

The newest colleges are usually two or three storey steel-framed buildings with curtain walls spaced on the module system. Although windows are ample and rooms well-lighted naturally, a strong tendency exists to keep venetian blinds permanently down and the rooms continually lit with multiple rows of neon ceiling lights. Always working in this artificial illumination must surely produce eventual strain. In fact natural light seems to be largely ignored and no special attention is given to the siting of laboratories in relation to the points of the compass. Heating, ventilation and cooling are by means of ceiling-hung air conduits as are the remaining services which are supplied from a centralised basement source. Indeed, in Michigan State College, whose veterinary accommodation, though less modern in style, is also truly excellent, the principal services are centralised for the whole college and carried in underground tunnels to all schools of the campus. There are no restrictions on sanitary or other grounds against keeping large animals indoors on any floor of new or old buildings. Thus a large-animal clinic is sited on the second floor at Michigan State College, whilst there is a well-marked trend towards providing all departments with large and small animals for research and demonstration in departmental quarters on whatever floor of the building they happen to be. Access is by elevator or ramp, and destruction of carcases, dung, and rubbish by chute to the basement incinerators. This is a pleasing contrast to countries where inflexible health regulations tend to drive veterinary institutions outside even the municipal boundary. All departments are appropriately supplied with walk-in refrigerators and cold-rooms. In the dissecting room the latter have replaced the wet system of storage in tanks, and here and in the *post-mortem* room carcases are carried on overhead rails into cold storage, while smaller fresh specimens are stored in air-evacuated plastic sacks, and deep-frozen.

Perhaps the best developed features of North American veterinary schools are their clinics, of which the one already mentioned at Cornell is perhaps the outstanding example. Another very well-planned clinic building was seen at Fort Collins, and though not large, it has been regarded as so satisfactory that it has been copied elsewhere with modifications. The central part of the building comprises services such as stores and pharmacy, that are common to the large- and small-animal clinic. Here also is sited a large modernly equipped but otherwise conventional demonstration amphitheatre, which can admit large animals from the one hand and small from the other for clinical conferences. On one side the central block extends to form the small-animal theatres, special services, and wards. The small-animal wards consist of a series of narrow rooms opening endwise off a corridor, each containing two tiers of 3 by 3 feet cages facing a blank wall. Partitions between cages on the lower tier are removable to accommodate the large varieties. Animals are bedded on, and fed off, newspaper. The ceilings are sound absorbent and the blank walls faced by the dogs discourage barking. The small-animal theatres have glassed-in spectators' galleries. The three remaining sides of the central facilities are occupied by the large-animal theatres and wards, offices and student facilities respectively.

In most schools, X-ray sections are splendidly equipped with powerful large-animal therapy and diagnostic apparatus under remote control, and an abundance of small-animal equipment. Large-animal wards generally consist of heated barns which have

variously designed standings and loose-boxes within the shell of the building facing inwards to a wide central service way. In cold countries at any rate this arrangement seems infinitely preferable to rows of external loose-boxes divorced from the main building. Large-animal theatres are usually equipped with moveable or fixed tiers of seats, which face a hydraulic operating table and a metal crush. Most theatre taps are knee-operated and stainless steel fittings are almost universal. An idea of the size of these clinics can be gained from the fact that some are designed to hold upwards of 300 large-animal in-patients, and at certain times of the year are filled to overflowing.

Although the clinical diagnostic laboratory and *post-mortem* room are in the charge of the Department of Pathology, they are usually well-sited near to the clinics; and provided odour can be avoided this seems ideal. Some notable items of their equipment are knee-tap operated flexible or fixed showers over sloping small-animal *post-mortem* tables, hydraulic large-animal *post-mortem* tables also with showers, fixed or moveable students' seats in tiers, overhead carcase carrier ways feeding walk-in cold rooms, and efficient oil- or gas-operated incinerators fed by chutes.

A final word should be said about the siting of these veterinary schools. All of those seen were situated on the fringe of the campus of a university, or Land Grant College, in small university towns in the heart of agricultural America. They were closely associated with agricultural schools, with which they provide exchange services. In most instances also, other exchange services are operated between other schools on the campus.

Facilities

There are one or two principal ways in which American veterinary school facilities are better than those of the United Kingdom, and the most important is that vivisection regulations and veterinary legislation in the States do not hinder the free use of experimental mammals by students. In consequence, the whole semi-final year class can and does practise survival surgery continually on purchased dogs. For this purpose the class is divided into teams of surgeon, assistant and anaesthetist, who change places rotationally. Each team is fully equipped with a patient, a table, anaesthetic apparatus, appropriate surgical pack, masks, gowns, and gloves. Starting from the simplest procedures, they work through in the course of the year the principal major operative techniques. In this way they reach the final year as self-confident, practised surgeons, and it seems unlikely that many medical students commence their careers better equipped. The same facility permits teams of students in their second year to perform all the classical physiological and pharmacological experiments themselves, which, apart from giving them a better insight into the subjects being studied, imparts a manual dexterity and familiarity with incised living tissues at an early stage of their careers.

Another impressive facility for learning in the United States' veterinary schools is the very extensive field of clinical work available to students. This is partly due to the siting of the schools in small university towns in intensely agricultural areas, and partly to the capacity of the wards and to the ambulatory clinic. All schools visited ran up to four fully-equipped automobiles which were on day and night call in the large-animal practice. Teams of students are allocated to each vehicle rotationally for two or three separate weeks in the year (to offset seasonal factors), and they sleep in the hospital during this time. The writer is convinced that not only does this system teach students the realities of practice but it attracts more and more clients and material to the school hospital. The greater the clinic the greater will be the amount of *post-mortem* and clinical pathological material, and it is inevitable that instruction in practical pathology will benefit. It is, therefore, a nice point for decision, whether the American system of drawing all available clinical instruction into the College with an inevitable reduction of the time available for pure study and thought, is better than the English system where pre-graduate practice is seen mostly during vacation work with practising veterinarians. The fact that one school in America reports a total of just over 40,000 clinical accessions in 1953-4 (excluding poultry), of which some 25,000 were cattle, would seem to weigh heavily on the side of the American system as the ambulatory clinic dealt with over half of these. *Post-mortems* were just short of 1,000, and clinical pathology examinations around 120,000.

The close connection between American veterinary schools and regional research centres, agricultural extension work and routine diagnostic services, also provides additional valuable teaching facilities.

Staff

American veterinary educationalists consider that one tutor to every 10 students is optimal but in practice the ratio is usually nearer 1 to 15. It is, however, difficult to evaluate it in terms of teaching potential, as almost all schools use numerous part-time teachers. Part-time teachers may be of two kinds, those not on the staff of the school, who can be fairly easily separately assessed, and those who are on the staff but whose time is spent almost entirely on research. It is the potential of these latter that it is difficult to judge from staff lists, but whilst an occasional pre-clinical department here and there may appear understaffed, in the main staffing appears adequate.

The calibre and enthusiasm of the staff is in most instances impressive. Many are preparing text-books or re-editing them; there is much interest in new methods such as visual aids to teaching, and in up-to-date techniques; publications are frequent (one school issued 49 in 1953-4) and the amount of effort put into demonstrations and laboratory exercises is striking. As in every endeavour, the recruitment and retention of men of high calibre and common interests depends greatly on terms of service, and it is noteworthy that the most inspiring veterinary school visited had very satisfactory service terms. On the other hand another school that is just emerging from a period of instability and frustration is doing so as the result of improving these terms. Nevertheless, staff salaries still compare unfavourably with the earnings of practitioners. For example, the three top

ranks of teachers, professor, associate professor and assistant professor (possibly the equivalent of professor, reader and senior lecturer in the British system) receive salaries ranging between $8,000 and $12,000 p.a. (£2,800 and £4,2000), the higher figure being infrequent. On the other hand, it is said that an efficient hard-working well-established young practitioner can nett between $15,000 and $20,000 annually (£5,250 and £7,000). To British eyes a salary of upwards of £2,000 p.a. may seem attractive, but in fact it does not appear to bring a man a standard of living in the States as high as that of his opposite number in Britain on a lesser salary. The cost of living is notoriously high. Colleges do not usually provide housing, and if they do, full commercial rents are charged, which are very heavy. The American's greatest affluence appears in his cars and household machinery, rather than in the house structure or its furnishings, and the middle-class salaried American is often served by craftsmen and daily helps who have newer motor cars and better dish-washers than, say, the college professor! Vacation and leisure are not prominent features of the American middle-class scene.

The staff of veterinary schools is most fortunate in receiving much assistance from part-time graduate demonstrators who are recruited from graduates taking higher degrees, and from technical assistants drawn from the student body itself. The former are required to give about 20 hours per week to demonstration, for which they are paid sufficient to enable them to pay their way. The latter are a universal feature of American college life and in return for sufficient money wholly or partially to keep themselves at college carry the routine preparation for the laboratory classes. Although this entails an extra burden of up to 18 hours or more a week, it is said there is a waiting list for most of these services which range from cleaning the *post-mortem* room or the wards to cutting histological sections, preparing dry dissections and so on. The work is said to be done remarkably well to the mutual advantage of the college and the students.

A notable activity of college staff is frequent attendance at conferences, symposia, congresses and seminars, but, whilst such functions are very enjoyable, there is room for doubt as to their great value in all cases. Be that as it may, as this is one of the few forms of relaxation the Americans permit themselves, perhaps they have a certain hidden value, not obvious to the visitor.

Students

The enormous restless energy and capacity for hard relentless work seen in all sections of the population of the United States is vividly illustrated by her undergraduates. The whole tradition of American thought appears to be focused on success derived from personal dynamism and initiative. From a tender age "junior" is encouraged by the community to help himself and it is deemed praiseworthy and beneficial for him to earn money early, as by delivering newspapers. By tradition, technical ability is held pre-eminent and the child is reared against a background of mechanical hobbies and toys, whilst absorbing the technicalities of his home and the whole civilisation. Again by tradition, parents do not expect, nor are they expected, to spend much on the child's education, other than indirectly through taxation; and when State aid finishes the adolescent is expected to provide, in part at least, for himself. The undergraduate therefore takes hard work as a matter of course; he is resourceful and technically able—or potentially so. Capacity for hard work is well illustrated by instances of students earning their way through college, extreme examples being cases cited of students working eight-hour shifts in cotton mills whilst taking the veterinary courses. Less extreme examples are the rule rather than the exception and it seems that almost anyone can, if he likes, maintain himself at College with some help from wife or family for years at a stretch. Nevertheless, some schools do not approve of more than about 18 hours a week being spent in this manner.

Apart from their capacity for hard work, final year students are singular for their self-confidence and technical forwardness, traits which enable them to carry on most of the work of the clinics with the least supervision from their tutors, from whom it is often difficult to distinguish them. It is impossible not to suppose that this stands them in good stead in after life, and the writer was impressed at all times by their quick energy and keenness, and by the way they understood a direction and carried it out with a minimum of explanation.

Reference

PAYNE, L. C., & HARDENBERGH, J. G. (1955). *J.A.V.M.A.* **126,** No. 934, 14: "Developments in Operations of the National Board of Veterinary Medical Examiners."

(*To be continued*)

R.S.H. CONGRESS AT BLACKPOOL

As in past years, the Annual Congress of the Royal Society of Health, to be held at Blackpool from April 24th to 27th, will include a veterinary hygiene section. This will meet in the afternoon of April 24th. The President will be Mr. R. E. Glover, Principal of the Royal Veterinary College, and the recording secretary, Professor H. Burrow.

Following the Presidential address will be two papers respectively, New Horizons in Animal-Human Health Relationships, by Mr. Raymond J. Helvig, Assistant Chief, Milk and Food Programme, U.S. Public Health Service; and Animal Housing in Relation to Public Health, by Mr. J. O. L. King, Senior Lecturer in Animal Husbandry, University of Liverpool.

OFFER OF VETERINARY LITERATURE

Mr. G. W. Serth, of 47 Chaldon Common Road, Chaldon, Caterham, Surrey, writes to say he has available a number of veterinary journals published during the past 10 years. They include THE VETERINARY RECORD, the *British Veterinary Journal*, the *J.A.V.M.A.*, *Veterinary Medicine*, and the *Cornell Veterinarian*. Some sets are incomplete but Mr. Serth would be glad to give some or all of this literature to any readers who would care to write to him.

Current Literature

REPORT

Federation of Malaya. Report of the Veterinary Department for the Year 1953

The year under review was notable for the completion of the new Veterinary Research Institute at Ipoh, with its ample and up-to-date facilities for research and the preparation of biologicals.

In an introduction to the report the Director of Veterinary Services points with justifiable pride to the almost unique freedom of the Federation as a tropical country from the major animal diseases. No case of rinderpest, foot-and-mouth disease, black-quarter, anthrax or tuberculosis was detected during the year.

Nevertheless there is still much loss of animal health and productivity owing to a variety of causes, such as bad husbandry, helminthiasis and starvation. Chief among the department's activities and achievements during the year was the highly successful campaign of mass vaccination against rabies, a disease which has plagued the Federation for the last seven years, and against ranikhet disease (Newcastle disease) of poultry. In the case of rabies mass vaccination with chicken embryo vaccine (Flury strain) was carried out in all infected states coupled with an intensive drive for the destruction of unvaccinated dogs. By the end of the year nearly 74,000 dogs had been vaccinated. The effectiveness of this campaign is shown by the spectacular fall in the incidence of the disease from an annual average of 150 cases in the previous three years to 15 in 1953. During the last six months of the year not a single case was recorded. It was hoped, with a continuance of this campaign, that 1954 would see an end to the disease in Malaya.

The other disease of special importance is ranikhet disease of poultry. Poultry keeping is a very large and important industry in Malaya. Its present thriving state is in great measure due to the success of the Department's vaccination campaign, which has removed the crippling losses which so seriously hindered the industry in the past. In 1953 nearly 3,250,000 birds were vaccinated—an average of over 10,000 birds every working day of the year. The vaccine is a fixed attenuated virus grown in chick embryo allantoic fluid and diluted 1 in 500 parts sterile water or saline solution. The dose is ½ c.c. given intramuscularly. Small sporadic outbreaks of haemorrhagic septicaemia caused the deaths of 60 buffaloes. The prophylactic inoculation of 8,500 in contacts with serum, and/or vaccine, quickly brought the outbreaks to an end.

Sporadic cases of malignant catarrh were also encountered. No specific treatment has yet been found and the mortality rate has been around 40 per cent. There is a suspicion that sheep act as reservoirs of the infection.

Of diseases of horses occurring in Malaya Japanese B. encephalitis is especially mentioned, as well as osteo-dystrophia-fibrosa, equine anhidrosis (dry coat) and a variety of helminth infections.

In goats an outbreak of melioidosis is recorded. Of special significance is the fact that whereas this disease is known to occur in humans and equines in Malaya this is the first time it has been recorded in goats. No attempts at treatment, which included penicillin and sulphonamides, had any effect on the course of the disease, and the mortality among sick animals was high.

Animal Husbandry

There are many factors hindering Malaya from ever becoming a large stock-raising country, but, these apart, more use could be made of existing opportunities so as to lessen the gap between local supplies of animal products and the demand. In this regard the Director of Veterinary Services deplores the ending of the old sport of bull wrestling, for this harmless pastime did more to encourage cattle breeding than do the more modern but less spectacular livestock shows. The present schemes for livestock improvement are based on up-grading the indigenous stock by the use of superior Zebu bulls, by selective breeding among indigenous stock and the castration of inferior bulls. Meat inspection in the larger abattoirs is the responsibility of officers of State and Settlement Departments.

Records of these abattoirs show that while it is rare for a whole carcase to be condemned on account of disease, there is considerable wastage of offal mostly from helminth infection. No case of tuberculosis was detected during the year. Animal infirmaries are established in each State and Settlement and treatment is given for a wide variety of surgical and medical conditions. In all 12,000 animals were treated. In addition, during the year, more than 42,500 birds were caponised by the stilboestrol implant method, which is rapidly gaining favour over the surgical method performed by itinerant Chinese caponisers.

The present political emergency has made the work of the officers of the Department extremely difficult and hazardous, and it is a fact deserving of the highest praise that the Director, Mr. W. E. Lancaster, and his staff, have been able to do so much work so well.

W.W.H.

THE STETHOSCOPE

" The stethoscope, when expertly used, is still the most useful instrument in the diagnosis of abnormalities of the blood flow within the heart and great vessels. It often renders unnecessary the employment of more elaborate procedures."

Howard B. Sprague, M.D., Physician, Massachusetts General Hospital; Former President American Heart Association, in an article entitled " The Art of Ascultation of the Heart." The Practitioner. *March, 1956.*

News and Comment

UNIVERSITY NEWS

Liverpool

B.V.Sc. Degree, Third Examination, Part II

March, 1956

Ashworth, K. T.; Barrett, S.; Bolger, K.; Butler, C. L.; Bygrave, A. C.; Crabb, P. J.; Davies, E. B.; Dickinson, L. G.; Ewbank, R.; Fraser, C. E. O.; Harrison, F. A.; Hilder, E. F.; Hobson, G. J.; Holmes, J. A. R.; Howell, J. M.; Hughes, I. B.; Jenkinson, T. A.; Knifton, A.; Lancaster, R.; Malkinson, M. H.; Menear, H. C.; Murgatroyd, A. E.; Pickard, Barbara; Tandy, J.; Tyler, J.; Whiteley, H., and Williamson, G. A.

Part III

Ashcroft, R. A.; Ashworth, K. T.; Barrett, S.; Bolger, K.; Butler, C. L.; Bygrave, A. C.; Crabb, P. J.; Davies, E. B.; Dickinson, L. G.; Ewbank, R.; Fraser, C. E. O.; Harrison, F. A.; Hilder, E. F.; Hobson, G. J.; Holmes, J. A. R.; Howell, J. M. (with Distinction); Hughes, I. B.; Jenkinson, T. A.; Knifton, A.; Lancaster, R.; Malkinson, M. H.; Menear, H. C.; Murgatroyd, A. E.; Pickard, Barbara; Tandy, J.; Tyler, J.; Whiteley, H., and Williamson, G. A.

PERSONAL

Births

DUNLOP.—On March 30th, 1956, to Annette, wife of Frank Dunlop, M.R.C.V.S., 15, Northwood Crescent, Stanwix, Carlisle, a son.

HOLMES.—On February 22nd, 1956, to Sheila (*née* Stalbow) wife of John R. Holmes, M.R.C.V.S., 22, Richmond Road, Corby, Northants, a son, Robert David.

LAKIN.—On March 23rd, 1956, to Patricia, wife of C. N. S. Lakin, M.R.C.V.S., of Wilmington House, London Road, Hailsham, a daughter, Rowan Sarah, sister to Dorcas.

LE CHEMINANT.—On February 13th, 1956, in Guernsey, to Natica and David Le Cheminant, M.R.C.V.S., of Orange Lodge, King's Mills, a daughter, Oriane Jane.

Marriage

PILL—HENSTCHEL.—On April 2nd, 1956, at Hexham Abbey, Alan Hugh, eldest son of Mr. and Mrs. W. P. Pill of Harrogate, to Katharina, daughter of Mr. and Mrs. F. A. H. Henstchel of Heiligenhaus, Germany.

R.C.V.S. OBITUARY

We record with regret the death of the following member of the profession:—

FERGUSON, William Turnbull, 13, College Avenue, Maidenhead, Berks, Capt. late R.A.V.C. Graduated Dublin, December 15th, 1909. Died March 27th, 1956, aged 79 years.

MAJOR F. J. WEIR

Dr. D. H. G. Irwin writes:—

Major Frederick Joseph Weir, R.A.V.C., died peacefully at his home in Somerset West (Cape Province) on January 28th. He was born in Dublin in 1891 and received his M.R.C.V.S. at Dublin University in 1912.

After a short time in practice (about which he related many amusing stories) he joined the R.A.V.C. in 1913, going to France the following year with the 1st Cavalry Division. He served in France and Flanders, gaining the Mons Star, and returned to England in 1918.

A few years later he was posted to India, where he served in various appointments including A.D.V.S. and senior remount purchasing officer to the Government of India. In World War II he served on the north-west frontier of India until 1945. On retiring he settled in Somerset West, Cape Province, South Africa.

I met Major Weir five years ago when he was still practising veterinary medicine in a private capacity. His kindness, helpfulness, and assistance were always forthcoming to me, a junior colleague in the same town. Failing health caused him to give up practice, but his interest in the profession and in veterinary literature never ceased. He was a fine gentleman, an animal lover, and I shall always cherish the recollection of my personal and professional contacts with him. He is greatly missed by many friends in Somerset West and our deep sympathy goes to Mrs. Weir in her loss.

COMING EVENTS

April

7th (Sat.). 10th Annual Dinner of the B.R.X. Club at the Royal Veterinary College, 6 p.m.

10th (Tues.). Spring Meeting of the Society of Women Veterinary Surgeons at the University of Cambridge, 11.30 a.m. Lunch at the Garden House Hotel at 12.45 p.m. followed by a tour of the new buildings and a demonstration talk.

11th (Wed.). Meeting of the British Mycological Society at Queen's College, Cambridge, 10 a.m.

11th and 12th (Wed. and Thurs.). L.A.B. Congress at Royal Veterinary College, London.

12th (Thurs.). Annual Dinner of R.C.V.S. at Hyde Park Hotel. Tickets two guineas each obtainable from the Registrar.

13th (Fri.). Symposium on "Infections in Laboratory Animals" by the Laboratory Animals Bureau at the Royal Veterinary College, London, 9.45 a.m.

18th (Wed.). Meeting of the Lancashire Division, B.V.A., at the University of Liverpool Veterinary Field Station, Neston, Wirral, 12 noon.

Spring Meeting of the Eastern Counties Division, B.V.A., in the museum of the Norfolk and Norwich Hospital, 8 p.m.

19th (Thurs.). Ninth Ordinary Meeting of the Southern Region of the A.V.T. and R.W's. at the Royal Veterinary College, London, N.W.1.

20th (Fri.). Meeting of the Mid-West Division, B.V.A., at the Berkeley Café, Clifton, at 2.30 p.m.

26th (Thurs.). Meeting of the Essex Division, B.V.A., in the Essex Institute of Agriculture, Writtle, Essex, at 7.30 p.m.

May

4th (Fri.). Annual Ball of the Royal Veterinary College Students' Union Society at the Criterion Restaurant, 9 p.m. Tickets: £3 3s. each from the Social Secretary.

10th (Thurs.). General Meeting of the Society of Women Veterinary Surgeons in the Veterinary School of the University of Cambridge, 11.30 a.m.

16th (Wed.). Annual General Meeting of the Scottish Regional Group of the A.V.T. and R.W's. in the University of Glasgow Veterinary Hospital, Bearsden Road, Bearsden, 2.15 p.m.

September

16th to 22nd (Sun. to Sat.). 74th B.V.A. Annual Congress at Royal Leamington Spa.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

The Veterinary Record

Sir,—For many years, members of Council (and particularly of the Editorial Committee) have tried to devise means of improving THE VETERINARY RECORD. This publication has in recent times become —might I say—very "high brow," devoting what I think to be far too much space to highly involved and technical articles with, almost invariably, pages of tables in each issue.

Such articles are written, and read, by experts in some particular sphere, and I am bound to say, are often of little interest to a busy general practitioner.

From a close association with so many of my colleagues over the years, I know this to be a fact. Men have said to me: "I have little time for reading; hardly see the daily paper. So when THE RECORD arrives I usually turn at once to the correspondence and the scanty bits of news."

The purpose of this letter, is to emphasise the importance (as I view it) of making THE RECORD more alive, and of greater appeal to the busy practitioner, in fact of greater news value.

How many times clients, having read some item of veterinary interest in the national papers, have come to me and asked what are the views of my profession on the particular matter. I have had to say that the profession has expressed no view. I find many items in the daily papers which are of particular interest to practising veterinary surgeons, but never do I find any reference to them in THE RECORD. A few weeks ago a whole page of a Sunday newspaper was devoted to discussion of some electrical box or gadget which quite responsible people had affirmed was capable of curing certain ailments at a distance. It sounded incredible to me, but animal owners who had used it, insisted it had a great value. Some brief description and comment might well have appeared in our journal, if only for the sake of putting our members in possession of the facts. Then there was the case of the poisoning of two horses at sea by strychnine, a case which was of particular interest to those of us who frequently act for underwriters in investigating claims. The veterinary evidence as reported in one paper was to the effect that the horses died of constipation.

Just recently I read that racehorses derive great stimulus from injections of vitamin B_{12}. It is probably being increasingly used to make horses win.

Such cases as these are good subjects for discussion, as also are the many legal cases in which we are concerned but which hardly ever get even a notice. I would like to see a news section of THE RECORD in which all matters of veterinary interest occurring in our every-day life are freely reported and discussed.

Yours faithfully,

HAMILTON KIRK.

28 Park Hill,
Ealing, W.5.

January 28th, 1956.

Lameness in Horses

Sir,—How refreshing to read Brigadier Peatt's article on lameness in the horse. In view of his prowess both on riding and in treating horses, he is to be thanked for putting his great knowledge at the disposal of the younger members of the profession. Some of them have, to my knowledge, shown appalling ignorance about the subject of lameness.

How well I know the difficulty of inserting the needle into a highly strung animal for plantar blocking! May I suggest to him to try "field anaesthesia," using a 1 c.c. dental syringe, as employed in intradermal tubercular testing. The twitch is required to put the "Xylotox" in, but by the use of this method, after an interval of five minutes the needle can be inserted without any restraint—an impressive sight to the client!

Yours faithfully,

R. F. BETT.
Major, R.A.V.C. (Rtd.).

Salisbury,
S. Rhodesia.

January 31st, 1956.

During the course of the printing dispute it was not practicable to publish the fortnightly statistics of notifiable diseases as issued by the Ministry of Agriculture. To assist teachers and others who need the statistics for purposes of record, we publish them below back to a period that will link up with the last which were printed in this journal.

DISEASES OF ANIMALS ACT, 1950—GREAT BRITAIN

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period		Anthrax	Atrophic Rhinitis	Foot-and-Mouth	Fowl Pest	Sheep Scab	Swine Fever
1st to 15th January, 1956		17	—	—	73	—	30
Corresponding period in	1954	34	—	—	40	—	38
	1953	13	—	—	108	—	61
	1952	68	—	2	86	—	41
16th to 31st January, 1956		100	—	—	24	—	28
Corresponding period in	1955	59	—	5	45	—	45
	1954	9	—	2	78	—	68
	1953	58	—	1	47	—	74
1st to 31st January, 1956		117	—	—	97	—	58
Corresponding period in	1955	93	—	5	85	—	83
	1954	22	—	2	186	—	129
	1953	126	—	3	133	—	115
1st to 15th February, 1956		171	1	—	15	—	20
Corresponding period in	1955	58	—	—	26	—	57
	1954	14	—	1	50	—	41
	1953	48	—	15	13	—	84
1st January to 15th February, 1956		288	1	—	112	—	78
Corresponding period in	1955	151	—	5	111	—	140
	1954	36	—	3	236	—	170
	1953	174	—	18	146	—	199
16th to 29th February, 1956		212	1	4	13	—	25
Corresponding period in	1955	33	—	—	29	—	53
	1954	8	—	5	83	—	54
	1953	33	—	1	11	—	94
1st January to 29th February, 1956		500	2	4	125	—	103
Corresponding period in	1955	184	—	5	140	—	193
	1954	44	—	8	319	—	224
	1953	207	—	19	157	—	293
1st to 15th March, 1956		183	1	4	23	—	19
Corresponding period in	1955	41	—	1	8	—	48
	1954	16	—	2	49	—	58
	1953	43	—	2	14	—	93
1st January to 15th March, 1956		683	3	8	148	—	122
Corresponding period in	1955	225	—	6	148	—	241
	1954	60	—	10	368	—	282
	1953	250	—	21	171	—	386

TUBERCULOSIS ORDER OF 1938

The number of bovine animals slaughtered under the Tuberculosis Order of 1938 during the period 1st October to 31st December, 1955, was 305.

TUBERCULOSIS (ATTESTED HERDS) SCHEMES

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at 31st December, 1955, was as follows :—

England	Wales	Scotland	Total (Great Britain)
81,869	33,949	36,259	152,007